Supply Lines With The Source

Newsletter of the Drinking Water and Groundwater Bureau
on the web at www.des.nh.gov/

Spring 2009

Aboveground Petroleum Storage Tank Compliance

What you, as a local inspector, can do to help

Releases from aboveground petroleum storage tanks (ASTs) and activities associated with their use are among the most common sources of petroleum contamination of soil and groundwater in New Hampshire. There are literally hundreds of thousands of such tanks in use throughout the state. They come in many shapes and sizes, from the typical 275-gallon tank designed for home heating oil use, to tanks storing millions of gallons. Regulations vary based on the size and use of the tanks. One thing that petroleum storage tanks have in common, however, is the requirement for secondary containment, the only exception being the smaller 275-gallon residential style home heating oil tanks that are used exclusively for heating a structure.

Secondary containment must be large enough to hold at least 110 percent of the largest tank within the storage area. In most cases, the containment area must be covered to prevent accumulation of stormwater, and the filling of and dispensing from the tank must occur over an impervious transfer area such as concrete or asphalt. The most common violators of this requirement are municipalities and small transportation/construction companies that refuel their own vehicles. It is not uncommon for a 300- or 500-gallon gas tank to be placed outside without cover, equipped with a pump and rubber-hosed nozzle and for fuel transfers to occur over a pervious surface such as dirt. Any tank holding more than five gallons of any petroleum-based product must have secondary containment and impervious transfer areas, and many must be covered by a permanent structure.

Larger tanks (e.g., a single tank greater than 660 gallons, or multiple tanks with a total capacity greater than 1,320 gallons) must be registered with the state and have a spill prevention, control, and countermeasures (SPCC) plan written in accordance with federal requirements (40 CFR Part 112) and state requirements (Env-Wm 1402). Local inspectors should review these plans to ensure the spill control materials and procedures are in place and consistent with the current activities at the site. See the DES OneStop online database for a listing of state regulated ASTs at www2.des.state.nh.us/OneStop/ under "Aboveground Storage Tank Sites."

Local inspectors should also review the installation and use of on-premise heating tanks (not regulated by DES) to ensure they are safely installed and comply with basic tank fabrication and installation standards of NFPA 31 as required by the State Fire Code (Saf-C 6012). Substandard tanks and "buried line" designs have been responsible for groundwater contamination. At minimum, all tanks should have functioning fill alarms to prevent overfilling, corrosion-resistant supply (and return) piping such as PVC, polyethylene, or equivalent coated copper to avoid leaks, and provisions to prevent spills or leaks due to freezing and thawing of the soil, or damage from falling snow and ice. *Best Management Practices for the Installation and Upgrading of On-Premise-Use Heating Oil Tanks* is available on-line at www.des.nh.gov. Search for "on-premise-use."

If you have questions concerning applicable rules or requirements that apply to ASTs, contact DES at (603) 271-3644. It may be helpful to point out to the owner that they are not eligible for reimbursement of costs associated with a spill cleanup if their tanks are not in compliance with applicable rules. •

DES Seeking Public Input on the Water Resources Primer and the Water Plan Process

As part of Phase I of the State Water Plan process, DES is holding a series of public meetings to discuss the *Water Resources Primer* (see the article on page 4), to present other work done for the Water Plan process, and to hear the public's concerns and ideas regarding water resources and their management. This phase of the Water Plan process has included a survey of state and local decision makers and investigations by the U.S. Geological Survey and the N.H. Geological Survey into future water demand and potentially stressed watersheds. The public meetings began in mid-February and will continue into May. For more information or to download the Primer, visit www.des.nh.gov and look under "What's New" or contact Paul Susca at (603) 271-7061. •

Spotlight on ... Source Water Protection with the Nashua River Watershed Association

by Mark Archambault, AICP, Smart Growth Circuit Rider
Nashua River Watershed Association

In October 2004, the Nashua River Watershed Association (NRWA) received grant funding from the U.S. Environmental Protection Agency to initiate a series of projects designed to further protect valuable drinking water resources and surface water quality within the Nashua River Watershed. Within this watershed, increasing pressures from rapid growth and the resultant decline of open space contribute to two overarching water quality problems: non-point source pollution of surface waters and increasingly compromised groundwater supplies.

The NRWA's protection projects have been targeted within the Squannacook–Nissitissit sub-basin, one of four major sub-basins of the Nashua River. In New Hampshire, all or portions of New Ipswich, Greenville, Mason, Brookline, and Hollis are within the Squannacook–Nissitissit sub-basin. The project has focused on improving water resources protection through land acquisition, landowner, public survey and messaging, water quality sampling, public education, and local regulatory changes.

Local land use regulations are key to the protection of surface and groundwater resources. NRWA initiated efforts in sub-basin communities in both states to improve these regulations. In New Hampshire, NRWA assisted the Greenville Planning Board in revising the town's open space residential development ordinance to more effectively protect natural landscapes by requiring that a minimum amount of open space be retained during development. The NRWA also drafted a new erosion control and steep slope protection ordinance and revised the wetland protection ordinance, which have all been submitted to the Greenville Planning Board.

In Mason, NRWA drafted (and the town adopted) language to establish a wetland buffer zone within the town's wetland protection ordinance and is currently assisting the town with an application to DES to reclassify several public water supply wellhead protection areas and a large stratified drift aquifer. Reclassification will limit a few risky land uses (in reclassified wellhead protection areas) and require regular best management practices surveys (e.g., inspections) of businesses using regulated substances (e.g., gas, oil).

Lastly, NRWA recently provided the Brookline Planning Board with draft low-impact development (LID) site plan regulations designed to reduce stormwater impacts to surface water and groundwater.

Efforts will continue with watershed partners beyond the fall 2009 endpoint of the EPA grant. NRWA is working to implement a long-term inter-municipal and interstate memorandum of understanding (MOU) to coordinate available resources and improve communication and information sharing among government, private and non-profit organizations. The MOU lists a series of commitments or actions that include the establishment of an annual "watershed summit" beginning in fall 2009 for state and local partners to meet and discuss watershed resource protection priorities, evaluate gaps in protection, and determine informational needs. If adopted, the MOU will serve as a model for other regions that wish to better protect their water resources beyond municipal and state boundaries.

For further information about this project, contact Mark Archambault at the Nashua River Watershed Association at (978) 448-0299 or marka@nashuariverwatershed.org. •

Register to Attend the 2009 Drinking Water Source Protection Workshop

Come join DES Commissioner Thomas S. Burack, who will open this year's drinking water source protection workshop on Friday, May 1, at the Grappone Conference Center in Concord. The workshop will cover key water supply issues facing New Hampshire and provide practical information to guide local efforts to protect drinking water sources.

To view the agenda and register online, visit the American Ground Water Trust (the event's sponsor) website at www.agwt.org/workshops.htm. The cost to attend the workshop is $25 per person, and includes lunch and workshop materials. Continuing education credits will be offered to state certified water supply operators.

For more information about this DES event, contact Alicia Carlson at alicia.carlson@des.nh.gov or (603) 271-4071, or Pierce Rigrod at pierce.rigrod@des.nh.gov or (603) 271-0688. •

Supply Lines with The Source, a newsletter of the Drinking Water and Groundwater Bureau, is published by:

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

29 Hazen Drive
PO Box 95
Concord, NH 03301
(603) 271-3503

Commissioner	Thomas S. Burack
Asst. Commissioner	Michael J. Walls
Division Director	Harry T. Stewart
DWGB Administrator	Sarah Pillsbury
Editors	Pierce Rigrod
	Holly Green

Printed on recycled paper.

To subscribe, contact Pierce Rigrod at (603) 271-0688 or Pierce.Rigrod@des.nh.gov
www.des.nh.gov/dwgb

Electronic Transfer of Sample Data from DES Laboratory Goes Live

As of November 13, 2008, water quality sample data is being electronically transferred from the DES state laboratory to the DWGB Monitoring and Enforcement section's database. To date, data on 2,777 samples (22,677 analytes) have been electronically transferred to DWGB.

Here are some common issues associated with internet transfers of sample data.

1. **How can I avoid popup blockers that prevent viewing the report?** An email is generated and sent to systems whenever samples have been processed by the laboratory and results have been sent to the DWGB. Users experience problems when trying to open the report from the email because the popup blocker option within the browser is enabled and must be disabled in order to view the report. This is a security feature within most browsers. If you don't wish to disable the popup blocker, dismiss warnings associated with the email and open the report by simply clicking on "OK" and/or "Yes" to display the file.
2. **Does the Comprehensive Lab Report contain a report of the analytical results?** No, the "Comprehensive Report of Laboratory Submission" only contains system identification information about the sample that matches the DWGB database. The analytical results will be sent directly to you through the mail from the laboratory, or you can review them on OneStop, as usual.
3. **What is the "Submission Date" in the email message generated by the electronic transfer?** The submission date in the email message is an acknowledgement that the sample has been electronically submitted from the laboratory to DWGB. It is not the date the sample was collected.
4. **What happens if samples are submitted to the laboratory with out-of-date or incomplete paperwork?** If you use an out-of-date Analysis Request Form (chain of custody form), it may not contain the system's current sampling sites and system information. If the sampler does not provide accurate sample collection information on the form, the submission will be rejected by DWGB. The laboratory staff can resubmit the information once they receive the correct information from the sampler.

To avoid potential rejection of samples, use the preprinted chain of custody forms. The most current sampling schedule and preprinted forms are available online from the DES OneStop website at www2.des.state.nh.us/OneStop/Public_Water_Systems_Query.aspx. Enter the system's EPA ID, and then click on the calendar icon with the number "31" to open the Master Sampling Schedule and Analysis Request Forms. If you do not have access to the internet and cannot download a copy of the system's current schedule, call DWGB and the required form will be mailed or faxed to you.

You must contact the DWGB Monitoring and Enforcement section before taking a sample from a location that is not on the system's Master Sampling Schedule. The DWGB Monitoring and Enforcement section can be reached at (603) 271-0893. If you have questions about where to take repeat samples for bacteria, please contact the Bacteria section at (603) 271-2542.

To update our database with your email address, contact Linda Thompson at (603) 271-3544 or linda.thompson@des.nh.gov. If you are a registered OneStop data provider, you can use the Public Water System Contacts Query link on the DWGB website to update your contact information. Visit www.des.nh.gov, go to the A to Z List, choose "Drinking Water and Groundwater Bureau," then scroll down and click on "Resources/Links." If you are not a registered data provider, contact Linda Thompson to apply for a DES Onestop PIN and password. You do not need to be a registered data provider to access the Master Sampling Schedule in OneStop.

Finally, the electronic transfer of sample data from private laboratories to DWGB (Phase II) is now in development. If you are a private laboratory and have questions about the electronic transfer process, contact Laurie Cullerot at (603) 271-2954 or laurie.cullerot@des.nh.gov. •

Reminder Concerning Bacteria Repeat Samples

If a sample for total coliform, fecal coliform, or *E. coli* is found to be positive during routine distribution system monitoring, you, the public water system owner, or your designee/representative must collect a set of repeat samples within **24 hours** after being notified of the positive result(s).

Please note:

- The laboratory is required to notify you and DES within 24 hours of a positive result.
- Make sure you have an adequate supply of sample containers on hand.
- Use the multi-use analysis request forms within your Master Sampling Schedule found at www2.des.state.nh.us/OneStop/Public_Water_Systems_Query.aspx.
- Repeat sample site locations should be determined in advance.

DES recommends that one of the repeat samples be taken at the nearest source (i.e., well) for diagnostic purposes and in preparation of requirements under the Ground Water Rule effective December 1, 2009.

DES may extend the 24-hour limit, if you cannot collect the repeat samples within 24 hours or when the samples cannot be analyzed within 30 hours of being collected. To request an extension, please contact Barbara Davis at barbara.davis@des.nh.gov or (603) 271-2542. •

New Report Highlights the State's Water Resources Issues

New Hampshire is fortunate in its abundance of high quality water resources, but there are a number of significant challenges. First, population growth and its associated land development can have profound impacts on water quality, water availability, and water-based recreational opportunities. Second, climate change, which is already bringing increasingly frequent extreme weather events to New Hampshire, is expected to exacerbate water quality problems, test our readiness to deal with droughts and flooding, and overwhelm the existing stormwater infrastructure in many places. Third, as is the case nationwide, New Hampshire's infrastructure for water supply, wastewater treatment, stormwater management, and water storage (dams) is sorely in need of maintenance, upgrade, or replacement, but no funding mechanism is in place to raise the needed money. Fourth, in order to inform the effective management of our water resources, there is a need to address critical data needs by expanding our efforts to gauge stream flows, monitor groundwater levels, gather water quality data, monitor the occurrence and spread of invasive species, and map flood-prone areas.

These four challenges, and much more information about the state's water resources and the issues facing New Hampshire, are presented in a new *Water Resources Primer* developed by DES and a group of stakeholders at the request of the Legislature's statutory Water Resources Committee. This committee was created in 2003 and charged with studying water resources and reporting its findings and recommendations to the legislature and the governor.

The purpose of the Primer is to inform policy makers and citizens about the state's water resources and the challenges faced in sustainably managing them. The Water Resources Primer is the first document that covers all of the water-related topics of importance to policy makers in New Hampshire.

The Primer and other related information are available on DES's website at www.des.nh.gov under "What's New." For more information, please contact Sarah Pillsbury at sarah.pillsbury@des.nh.gov or (603) 271-1168. •

The New Hampshire *Water Resources Primer* identifies the following issues and recommendations with respect to Drinking Water, Water Use and Conservation, and Groundwater.

Issues	Preliminary Recommendations
Drinking Water	
• Private well users are at risk • Struggling small community systems • Aging water supply infrastructure • Growth increases water system costs • Climate change • Water supply policies may help or hinder smart growth	• Increase private well protection • Improve capacity of small systems • Maintain and upgrade infrastructure • Improve local protection efforts • Track emerging contaminants • Improve water system security and interconnection • Prepare for climate change
Water Use and Conservation	
• Residential development patterns and lawn watering practices • Water losses in aging water systems • Lack of public understanding of water resource limitations • Lack of long-term thinking about conservation investments • Resistance to conservation rates	• Improve per capita water efficiency • Provide incentives for community water systems • Continue Water Use Registration and Reporting requirements • Develop innovative water resource projects
Groundwater	
• Unseen and not well understood • Landscape change affects quantity and quality • Lack of data	• Improve monitoring • Increase municipal land use controls • Increase public education and awareness

FAQs for the Drinking Water Monitoring Programs Are Now Online!

The DWGB website now has answers to the most frequently asked questions (FAQs) relating to multiple monitoring programs, including bacteria, chemical, disinfection byproducts, and lead and copper. If you have any questions regarding sampling and/or compliance with these requirements, please visit the DWGB website for a complete list of FAQs. To find these FAQs, go to the bureau's main webpage at www.des.nh.gov. In the A to Z List, choose "Drinking Water and Groundwater Bureau, then click on "FAQs."

If you prefer to speak with someone directly, click "Contact Us" for staff names, phone numbers, and email addresses. •

Water Systems Benefit from Emergency Interconnections Studies

Mutual aid is one of the ways community water systems have improved their emergency preparedness. One aspect of mutual aid is sharing water supply through physical interconnections. The physical interconnection of water systems is critical in the event of an emergency whether it's a terrorist attack or flood. With U.S. Environmental Protection Agency security grant funds, DES has awarded 11 grants to study emergency interconnections.

One of these grants allowed SEA Consultants Inc. to complete a mutual aid study for the Nashua Regional Planning Commission in June 2007. This study investigated the feasibility of establishing new or enhancing existing interconnections between water systems in south-central New Hampshire for the purpose of emergency water supply mutual aid. Nine water systems, spanning a total of 13 communities, participated.

Three of these water systems, Central Hooksett Water Precinct, Hooksett Village Water Precinct, and Manchester Water Works, with assistance from the Southern New Hampshire Regional Planning Commission, took one step further by conducting an even more comprehensive study. This led to recommendations for improvements and their associated costs and potential funding options. While the costs for these improvements are high, the financial burden can be shared and the infrastructure changes phased in over time, e.g., as repairs are made and new lines are placed.

Both of these studies will not only help to maintain water service during emergencies but will also foster good water system planning. If you would like more information on these studies, please contact Johnna McKenna at (603) 271-7017 or johnna.mckenna@des.nh.gov. •

NH Municipal Drinking Water Lab Advisory Group

Drinking water laboratory personnel face many challenges today as water quality standards become increasingly stringent and complex. Recognizing that regardless of a water system's size, laboratories share many common concerns, a small group of volunteers from municipal water system labs throughout New Hampshire met in 2008 and formed the **Municipal Drinking Water Lab Advisory Group** to provide a forum for lab personnel to discuss a variety of issues. Group members include representatives of both large and small public water systems from throughout New Hampshire.

Prior to the advisory group's formation, there was little communication or coordination between individual laboratory personnel. The objectives of the advisory group are to support and assist drinking water lab personnel in assuring the accuracy, efficiency, and consistency of their results. Everyone should be confident that they are properly using the latest industry accepted methods and procedures.

The advisory group is working with DES on a number of collaborative efforts:

- Improving communication between drinking water lab professionals.
- Creating a network allowing for the free exchange of ideas and experiences.
- Developing laboratory training opportunities.
- Creating a website for the dissemination of information.

The advisory group meets several times a year on an as-needed basis. The meetings are open to all interested parties. If you would like to learn more, please contact Allyson Gourley at (603) 271-0867 or allyson.gourley@des.nh.gov. •

Geothermal Systems and Groundwater Protection

Geothermal heating and cooling systems, also called geo-exchange or ground-source heat pump systems, use heat stored in the ground to heat or cool a home or building. These systems work by circulating a fluid through a well or a trench in the ground and capturing the heat of the shallow earth. The fluid then transfers the heat into a structure where it is distributed and used to heat the structure in the winter or cool it in the summer.

There are essentially two types of geothermal systems: 1) "closed loop" and 2) "open loop" or "standing column." Closed loop systems continuously circulate an antifreeze solution or refrigerant through a closed loop of piping installed in the ground, below the groundwater table or within a surface water body. Open loop or standing column systems circulate heated or cooled groundwater through an open water well or wells to exchange heat with the ground. Sometimes, the designers of these systems propose to pump large quantities of groundwater for these systems and discharge the majority of this water to the ground surface or surface water bodies. There are significant regulatory requirements associated with open loop geothermal processes that do not return the water to the same aquifer.

To keep up with the emergence of geothermal technology, DES and the New Hampshire Water Well Board have updated their regulations pertaining to these systems. In 2007, DES updated the Groundwater Discharge Rules (Env-Wq 402) to clarify geothermal system registration requirements under New Hampshire's Underground Injection Control program. These registrations may require annual groundwater quality sampling and reporting for geothermal processes used in industrial, institutional and

GEOTHERMAL continued on page 7

Technical Assistance Contracts for FFY08

For the past decade, the DWGB has applied a portion of its federal funding to contract technical assistance (TA) services to help small public water systems maintain compliance with the Safe Drinking Water Act. In Federal Fiscal Year 2008 (FFY08), the DWGB contracted TA services with Northeast Engineering PLLC and Granite State Rural Water Association (GSRWA). These contractors work independently with individual water systems to address a list of predetermined needs and report to DES at least monthly on their progress. A full report of the DWGB's TA services provided both via state staff and contract providers is available from the Capacity Development Report to the Governor at www.des.nh.gov. Go to the A to Z List, select "Small Public Water Supply Help Center/Capacity Assurance," click on "Publications" on the right side navigation, and choose "Triennial Report to the Governor."

The state contract with Northeast Engineering was in place from February 2007 to June 2008. Typical assistance included identifying and reviewing compliance options and conceptual cost estimates to address a variety of compliance issues. DWGB's second contract for FFY08 was with GSRWA for $85,475, for 12 months. Under this contract, 90 small water systems were assisted with bacteria and leak detection problems. Table 1 lists the top five systems with respect to hours of service.

GSRWA's contract also included assistance to 47 water systems for leak detection. Oversight of this part of the contract was provided by the DWGB Water Conservation program and allowed correction of leaks quantified at approximately 280 gallons per minute total loss rate.

Ongoing TA services continue to be provided through the DWGB's regular Capacity Development Program staff as well as through each individual DWGB program. Please visit our Small Public Water Supply Help Center at www.des.nh.gov and contact David Kelly at david.kelly@des.nh.gov or (603) 271-2472, or Cynthia Klevens at cynthia.klevens@des.nh.gov or (603) 271-3108 for additional assistance. ●

Table 1 – Systems Receiving the Most Technical Assistance

	TOWN	EPA ID	PWS NAME	Assistance Type	Hours
1	Allenstown	0043040	Catamount Hill MHP	Bacteria, Lk Detect, pump test	82
2	New Durham	1672020	Copple Crown Village District	Uranium + bacteria	76
3	Conway	0512250	Saco Woods	Uranium	75
4	Bartlett	0161010	Bartlett Village Precinct	Leak Detection	74
5	Conway	0512260	Davis Hill	Uranium	73

Pilot Instream Flow Studies Progressing

DES's Watershed Management Bureau is completing pilot instream flow studies and watershed management plans for the Lamprey and Souhegan Rivers. The Legislature has designated sections of the Lamprey and Souhegan River as a "protected river" that must maintain river-specific instream flows capable of supporting designated uses of the river, e.g., recreation, fishing. DES has developed rules stipulating the process that must be followed to establish protected flows for designated river reaches. These rules also describe a process for determining how to manage water use and dams within a watershed upgradient of the designated river reach to ensure minimum protected flows are maintained.

Protected instream flows for the designated reach of the Souhegan River have been established. DES is currently developing water conservation and water management plans for water users and dam owners to ensure protected seasonal flows are maintained in the designated river reach. DES has also proposed protected seasonal instream flows for the designated reach of the Lamprey River.

Public comments on the proposed protected flow levels for the Lamprey River were being accepted until March 2, 2009. Once the protected flows are established, water management and conservation plans will be developed for water users and dam owners upgradient of the designated river reach to maintain protected seasonal flows.

Even if water suppliers do not utilize water from the Lamprey and Souhegan Rivers, the recommendations and results of these pilot studies may be a template for managing instream flow statewide. The Legislature will be reviewing the pilot programs and, ultimately, the instream flow protection approaches utilized in the Lamprey and Souhegan watersheds could be applied to other watersheds in the state.

For more information on the instream flow program and the ongoing pilot studies, visit the Instream Flow webpage at www.des.nh.gov, go to the A to Z list, and click on "Instream Flow Protection Pilot Program" or contact Wayne Ives at (603) 271-3548 or wayne.ives@des.nh.gov. ●

Does the Ground Water Rule Affect You?

If your system uses a disinfectant as part of the water treatment process, e.g., ultra violet (UV), ozone, or chlorination, the Ground Water Rule (GWR) affects you! As of March 1, you should have chosen one of the following two options and must complete the tasks associated with the selected option prior to December 1, 2009.

OPTION 1. **Conduct six months of investigative source water sampling for *E. coli***. This investigative monitoring will be used to demonstrate whether or not your current disinfectant is masking a contamination problem. Prior to any treatment, "raw" source water must be sampled monthly for *E. coli* from March through August of 2009 from each well. The analysis must be conducted by a method that provides numbers of colonies present, rather than a Presence/Absence result. In the unlikely event that *E. coli* is found in your source water, DES will work with you to immediately correct the problem.

OPTION 2. **Demonstrate that your disinfection process meets 4-log treatment**. If Option 1 is not conducted, you must ensure that your disinfection process is capable of deactivating at least 99.99 percent (4-log) of any viruses at or before the first customer. To demonstrate this, you must submit engineering, operational, and other necessary information to DES **by October 1, 2009** so that DES can evaluate your process and establish your monitoring parameters. If this option is selected, DES will provide detailed guidelines for this analysis, which can be performed by an owner, an operator, or a consultant.

EXCEPTION. Systems currently disinfecting may request a waiver from the two options listed above if the following conditions are met:

- Installation of the disinfectant occurred on or after January 1, 2006.
- The system has three years of clean bacteria history prior to the installation of disinfection.

NOTIFICATION. You should have notified DES of the option chosen by March 1, 2009. DES encourages systems to select Option 1 as it will allow your system to avoid rigorous disinfection and monitoring requirements under the new GWR (provided your source is not contaminated). If you have not notified DES, please do so as soon as possible (see contacts below). Failure to comply with the GWR, including the requirements outlined above, will subject your system to enforcement actions after December 1, 2009.

The GWR is a new rule, which is in addition to all other current sampling requirements. The relationship of the GWR to your normal bacteria monitoring requirements under the Total Coliform Rule is detailed in the article below.

FURTHER INFO. DES training and summary information concerning the GWR can be found at www.des.nh.gov. In the A to Z List, choose "Drinking Water and Groundwater Bureau" and select "Education/Outreach." For questions about the GWR, waiver requests or compliance assistance, contact Selina J. Makofsky at (603) 271-4109 or selina.makofsky@des.nh.gov. For questions about 4-log treatment options and approvals, contact Bob Mann at (603) 271-2953 or robert.mann@des.nh.gov. ●

Triggered Monitoring - The Ground Water Rule AFTER December 1, 2009

The Ground Water Rule (GWR) will continue to impact all groundwater systems after December 1, 2009. After December 1, 2009, systems that are not disinfecting to 4-log treatment will be subject to the following requirement, referred to as "triggered monitoring."

If a bacteria sample collected from the distribution system per the Total Coliform Rule, as specified on your Master Sampling Schedule, comes back positive for coliform bacteria, one of the required repeats must be a sample collected from each and every well on-line during the time of the sample collection. This source water sample must be tested for *E. coli*.

If the results of this triggered source water sampling indicate the presence of *E. coli,* you must either perform corrective action (in coordination with DWGB staff) or collect five additional source water samples. In addition, if your source shows the presence of *E. coli*, a boil order is required along with public notice.

For more information concerning triggered monitoring, contact Selina J. Makofsky at (603) 271-4109 or selina.makofsky@des.nh.gov, or Bob Mann at (603) 271-2953 or robert.mann@des.nh.gov. ●

GEOTHERMAL continued from page 5

commercial settings. In 2008, the Water Well Board added new well construction standards for closed and open loop geothermal wells to its rules at We 600.

DES is also supporting legislation this year that proposes to do the following:

1. Clarify the New Hampshire Water Well Board's authority to regulate well drillers that construct geothermal wells.
2. Clarify DES's authority to regulate the types of fluids that are used in closed loop geothermal systems to ensure groundwater quality is protected.
3. Prohibit open loop geothermal systems from contaminating freshwater aquifers with salt water.

For more information on geothermal systems, visit the DES Groundwater Discharge Permitting and Registration website at www.des.nh.gov. In the A to Z List, choose "Groundwater Discharges." Contact the UIC program coordinator at (603) 271-2858 or mitchell.locker@des.nh.gov. ●

Lessons Learned from the December 2008 Ice Storm

For nearly two weeks following one of the most challenging ice storms in recent memory, the Drinking Water and Groundwater Bureau staff participated in emergency response activities through the State Emergency Operations Center. Much was learned during the ice storm and the DWGB has improved emergency response operations based upon those lessons learned. These include making changes to improve communications, agency coordination, tracking specific emergencies, and maintaining 24-hour access to critical water supply databases. DWGB staff also met with technical assistance providers and contract operators to discuss their feedback on how to improve communications and better coordinate overall efforts. The DWGB is now looking at how to improve communications with the general public through public service announcements and more pre-disaster preparedness.

What was most surprising about this event was that, while community water systems are required to notify DES during an emergency, only a few calls were received. Many community systems were called by DWGB staff to inquire as to whether they needed assistance. Some systems could have benefited had they called and requested assistance. For instance, systems that did contact us and were without power were placed on a Public Utility Commission priority list for power restoration. The DWGB can also provide technical assistance or connect systems with other resources through the Granite State Rural Water Association or even the NH Public Works Mutual Aid program. If the media is involved during a water system emergency, systems should contact DWGB staff so they can support your system by confirming to the media that all necessary actions are being taken. A list of emergency contacts can be found on-line at http://des.nh.gov/contactus/index.htm#emergency.

Of course, lack of backup power was the biggest issue for systems. In response to that, the DWGB announced the availability of generator installation grants and generator information forms to provide resources for systems to be better prepared for power outages in the future. The December 2008 ice storm has proven the importance of maintaining current emergency contact information, including emergency phone numbers, within an effective emergency plan. •

DRINKING WATER SOURCE PROTECTION PROGRAM
29 HAZEN DRIVE
CONCORD NH 03301

PRSRT STD
U.S. Postage
PAID
Concord, NH
Permit #1478